

SIEMENS

PATENT
Attorney Docket No. 2003P12785WOUS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Inventors:	G. Anders et al.)	Group Art Unit:	2472
)		
Serial No.:	10/572,898)	Examiner:	Jiang, Charles C.
)		
Filed:	12/21/2006)	Conf. Number:	2978

Title: METHOD AND SYSTEM FOR USING SERVICES WITHIN A
COMMUNICATION NETWORK

Mail Stop Appeal Brief – Patent
Commissioner for Patents
P.O. Box 1450
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APPELLANTS' BRIEF UNDER 37 CFR 41.37

Sir:

This brief is in furtherance of the Notice of Appeal filed in this application on 14 May 2010.

1. REAL PARTY IN INTEREST - 37 CFR 41.37(c)(1)(i)

The real party in interest in this Appeal is the assignee of the present application, Siemens Aktiengesellschaft.

2. RELATED APPEALS AND INTERFERENCES - 37 CFR 41.37(c)(1)(ii)

There is no other appeal, interference or judicial proceeding that is related to or that will directly affect, or that will be directly affected by, or that will have a bearing on the Board's decision in this Appeal.

3. STATUS OF CLAIMS - 37 CFR 41.37(c)(1)(iii)

Claims cancelled: 1 – 14, 16, 17, and 22.

Claims withdrawn but not cancelled: None.

Claims pending: 15, 18-21, 24-28.

Claims allowed: none.

Claims rejected: 15, 18-21, 24-28.

The claims on appeal are 15, 18-21, 24-28. A copy of the claims on appeal is attached hereto in the Claims Appendix. Appellants respectfully appeal the final rejection of claims 15, 18-21 and 24-28.

4. STATUS OF AMENDMENTS - 37 CFR 41.37(c)(1)(iv)

In response to the Final Office Communication mailed 16 February 2010, Appellants filed a Response with claim amendments under 37 CFR 1.116 on 14 April 2010, requesting removal of the rejection. The Advisory Action mailed 23 April 2010 indicates that the arguments presented in that Response did not change the status of the rejected claims and the amendment filed on 14 April 2010 was not entered.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER- 37 CFR 41.37(c)(1)(v)

With reference to figures and paragraph numbers and line number within the referenced paragraph, the following summarizes exemplary embodiments described in the claims.

5A. CONCISE EXPLANATION OF SUBJECT MATTER DEFINED IN INDEPENDENT CLAIM 15

With reference generally to Figures 1, 2 and 3, **independent claim 15** is directed to a system for using services 1, 2 provided by a communication network 4. The system comprises a communication network 4 having internet mechanisms 11, 12, 13 and a central register database

3 for providing information about the services 1,2 accessible from the communication network 4 (paragraph [0006], lines 1-5; paragraph [00011], lines 1-3 in the paragraph). The system comprises at least one automation system 5 having automation components 10 connected by a conventional field bus 8, the automation components 10 lacking internet mechanisms (paragraph [00009], lines 6-8 in the paragraph; paragraph [00017], lines 4 and 5 in the paragraph). The system further comprises a service access unit 6 operative as one element of the automation system 5, the service access unit 6 for connecting the conventional field bus 8 to the communication network 4 (paragraph [0006], lines 3 and 4 in the paragraph), wherein the service access unit 6 operates as a client for requesting services 1,2 , as requested by automation components 10, from the communication network 4 (paragraph [0006], lines 5 and 6 in the paragraph; paragraph [0007], lines 5 and 6; paragraph [00020], lines 3 and 4 in the paragraph; paragraph [00023], lines 3 and 4 in the paragraph) and operates as a server for providing web services in the communication network 4 (paragraph [00014], lines 3 and 4 in the paragraph; paragraph [00017], lines 23 and 24 in the paragraph; paragraph [00018], lines 7 and 8 in the paragraph), the service access unit 6 further including a protocol converter 7 for adapting a first communication protocol used by the services 1,2 to a second communication protocol used by the field bus 8 (paragraph [0007], lines 6 and 7 in the paragraph; paragraph [0008], lines 3-6 in the paragraph; paragraph [00017], lines 9-11 of the paragraph), thereby permitting the automation components 10 to communicate with internet mechanisms 11,12 of the communication network 4 (paragraph [0009], lines 8-11 in the paragraph; paragraph [00020], lines 3-5 in the paragraph) , the service access unit 6 further comprising a search means 15 for addressing the central register database 3 (paragraph [00011], lines 3 and 4; paragraph [00017], lines 16 and 17 in the paragraph) , services requested by the service access unit 6 becoming active in the automation system 5 (paragraph [00010], lines 1 and 2 in the paragraph).

With reference generally to Figures 1, 2 and 3, **independent claim 21** is directed to a method for using services 1, 2 provided in at least one communication network 4 having internet mechanisms 11, 12, and 13 and at least one automation system 5 comprising automation components 10 connected by a conventional field bus 8. (paragraph [0007], lines 1-3 in the paragraph). The method further comprises connecting the conventional field bus 8 to the communication network by a service access unit 6, (paragraph [0007], lines 3 and 4 in the paragraph) the automation components 10 lacking internet mechanisms (paragraph [00017], lines

3-5 in the paragraph) and the communication network 4 having a central register database 3 for providing information about the services 1, 2 accessible from the communication network 4 (paragraph [00011], lines 1-3 in the paragraph), the service access unit 6 operative as one element of the automation system 5 (paragraph [00010], line 4 in the paragraph). The method further comprises adapting a first communication protocol used by the services 1, 2 to a second communication protocol used by the field bus 8 by a protocol converter 7 included in the service access unit 6 (paragraph [00006], lines 6-8 of the paragraph), thereby permitting the automation components 10 to access internet mechanisms 11, 12, and 13 of the communication network 4 (paragraph [00018], lines 1-5 of the paragraph). The method further comprises accessing the services 1, 2 by the automation components 10 using the service access unit 6 as a client (paragraph [00018], lines 7-9 in the paragraph), the services 1, 2 requested by the automation components 10, wherein the service access unit 6 operates as a server for providing services in the communication network 4 (paragraph [00017], lines 23-25 in the paragraph), the service access unit 6 comprising a search means 15 for addressing the central register database 3 (paragraph [00017], lines 15-17 in the paragraph), services requested by the service access unit 6 becoming active in the automation system 5 (paragraph [00010], lines 1 and 2 in the paragraph).

With reference generally to Figures 1, 2 and 3, **independent claim 28** is directed to a service access unit 6 for connecting an automation system 5 having automation components 10 to a communication network 4 having internet mechanisms 11, 12, 13 (paragraph [0008], lines 1, 2 in the paragraph), the communication network 4 having a central register database 3 for providing information about the services 1,2 (paragraph [00011], lines 1-3 in the paragraph and paragraph [00017], lines 14-16 in the paragraph) accessible from the communication network 4, the service access unit 6 comprising a protocol converter 7 for adapting a first communication protocol used by the services 1, 2 to a second communication protocol used by a conventional field bus 8, (paragraph [0006], lines 7 and 8 in the paragraph) the automation components 10 lacking internet mechanisms 11, 12, 13, (paragraph [00009], lines 6-8 in the paragraph and paragraph [00017], lines 4 and 5 in the paragraph) the service access unit 6 operative as one element of the automation system 5 (paragraph [00010], lines 4-8 in the paragraph), the conventional field bus 8 connecting the automation components 10 (paragraph [0006], lines 3 and 4 in the paragraph), wherein the service access unit 6 further operates as a client for requesting services 1, 2 from the communication network 4 (paragraph [0007], lines 4-6 in the

paragraph), or as a server for providing services in the communication network 4 (paragraph [00014], lines 2 and 3 in the paragraph) and permitting the automation components 10 to communicate with the internet mechanisms 11,12, 13 of the communications network 4 (paragraph [00017], lines 3-6 in the paragraph; paragraph [00018], lines 3-5 in the paragraph), the service access unit 6 further comprising a search means 15 for addressing the central register database 3 (paragraph [00011], paragraphs 3 and 4 in the paragraph), services requested by the service access unit 6 becoming active in the automation 5 (paragraph [00010], lines 1 and 2 in the paragraph).

6. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL - 37 CFR 41.37(c)(1)(vi)

Whether claims 15, 18, 20, 21, 24, 26, and 28 are each unpatentable under 35 U.S.C. Section 103(a) as obvious over Daffner (U.S. Patent Application Publication 2002/0120671) in view of Greenlee (U.S. Patent Application Publication 2004/0268176).

Whether claims 19 and 25 are each unpatentable under 35 U.S.C. Section 103(a) as obvious over Daffner (U.S. Patent Application Publication 2002/0120671) in view of Greenlee (U.S. Patent Application Publication 2004/0268176), as applied to claims 15 and 21, further in view of Dutta (U.S. Patent Application Publication 2002/0124056).

Whether claim 27 is unpatentable under 35 U.S.C. Section 103(a) as obvious over Daffner (U.S. Patent Application Publication 2002/0120671) in view of Greenlee (U.S. Patent Application Publication 2004/0268176), as applied to claim 21 above, further in view of Moran (U.S. Patent Application Publication 2003/0083941) .

7. ARGUMENT UNDER 37 CFR 41.37(c)(1)(vii)

Appellants urge that the patentability of each appealed independent claim should be separately considered. Based on deficiencies in the rejections of independent claims 15, 21, and 28 under Section 103, the rejection of their corresponding dependent claims is also deficient.

7A. OVERVIEW OF ARGUMENT

All of the claims have been finally rejected in the final office action under Section 103 based on various combinations of the Daffner, Dutta, Moran references, and the newly-cited Greenlee reference.

The Appellants argue that, in the particular case of claim 15, the claim is not obvious in light of the Daffner and Greenlee combination.

The Daffner reference relates to a system and process for data communications between a controlling system unit 8 and in-building facilities (heating and air conditioning systems, for example) 2, 3 and 4. The in-building facilities are connected together with a bus system 5 and the bus system 5 is connected to the PSTN/Internet through a protocol converter 1 and a modem 7. See Daffner Figure 1. The system unit 8 is also connected to the PSTN/Internet, through a modem 9, for remotely monitoring and controlling the in-building facilities 2,3 and 4.

The Greenlee reference discloses a system for testing a plurality of servers, organized in a cluster, and taking remedial action when, for example, a server requires an excessively long time interval to complete a request. The servers operate to supply web pages to client/users, for example. The system further comprises a server status monitor and action program that issues search requests and determines the operational status of each server in the cluster.

As described generally in paragraph [00017] of the application, the Applicants teach an automation system comprising components 10 coupled together using a field bus 8. The field bus 8 does not provide for communication according to internet mechanism. Thus the Applicants teach a service access means 6 adapted to communicate with the components 10 over the field bus 8 and with the services 1, 2 using internet mechanisms.

The Examiner asserts that Daffner's element 7 (a modem as shown in Daffner's Figure 1) discloses the Appellants service access unit 6 and then suggests that Daffner's element/modem 7 can be replaced with Greenlee's server to disclose the Appellants service access unit. Such a combination lacks support under the patent rules of interpreting and combining references and in light of the technical capabilities of a server and a modem.

A combination of references supporting a rejection under Section 103 must disclose each element of the claim or must render each element of the claim obvious in light of the references. Also, there must be some rational basis for combining the references, i.e., would one skilled in the art have a sound technical basis for making the combination. 0.p

The final office action fails to meet these requirements for sustaining the rejection of all claims and Appellants have been forced to appeal the rejection. The rejection attempts to blur the technical distinctions between a modem disclosed by a first reference and a server disclosed by a second reference and argues that the first and second references can therefore be combined.

In his Advisory Action, Examiner Jiang states that the Appellants have introduced a new limitation into claim 15 (and claims 21 and 28) that was not previously presented and therefore requires further consideration and a new search.

The Appellants take issue with this comment. The “new” limitation is set forth below, with the underlined phrase identifying that limitation.

“a service access unit operative as one element of the automation system and connected to the field bus”

The second paragraph of claim 15 recites,

“at least one automation system having automation components connected by a conventional field bus,”

Since the service access unit is claimed as one element of the automation system and the automation system components are claimed as connected by a field bus, in fact, the service access unit is therefore connected to the field bus. Thus the limitation added in the amendment under Section 116 merely clarified an element of the invention that was already present in claim 15 before filing of the amendment under Section 116.

Additionally, in the Advisory Action Examiner Jiang states that it is not clear whether this new limitation would overcome the prior art. He suggests that Daffner would still anticipate the newly added limitation since there is a connection between its element 7 and element 5.

The Appellants argue the allowability of claim 15 on other grounds as more specifically set forth below.

7B. APPELLANTS TRAVERSE THE REJECTION OF INDEPENDENT CLAIMS 15, 21 AND 28 UNDER 35 U.S.C. SECTION 103.

The following arguments discuss independent claim 15 specifically, but as noted below, also apply to independent claims 21 and 28. Appellants respectfully disagree with application of the Daffner and Greenlee references to reject independent claim 15 under Section 103 because

that claim, directed to a system for using services provided by a communication network, requires:

“a service access unit operative as one element of the automation system, the service access unit for connecting the conventional field bus to the communication network, wherein the service access unit operates as a client for requesting services, as requested by automation components, from the communication network and operates as a server for providing web services in the communication network, the service access unit further including a protocol converter for adapting a first communication protocol used by the services to a second communication protocol used by the field bus, thereby permitting the automation components to communicate with internet mechanisms of the communication network, the service access unit further comprising a search means for addressing the central register database, services requested by the service access unit becoming active in the automation system. “

The final rejection cites the Daffner reference at paragraph 42 and element 7 of Daffner's Figure 1 for disclosing this service access unit. The examiner then relies on Greenlee for certain claimed features of the Appellants' service access unit. Appellants disagree.

The referenced Daffner passage identifies his element 7 as a modem. The Examiner has suggested that Daffner's element 7 discloses the Appellants' service access unit as set forth in claim 15. As he states in the Office Communication:

“a service access unit operative as on element of the automation system (Daffner, Fig. 1, Element 7, Paragraph 42)”

Although a modem provides communications capabilities as does the Appellants' service access unit, the Appellants' service access unit, as claimed, provides additional capabilities not present in a modem. The Examiner recognizes this deficiency and therefore combines Daffner with Greenlee, arguing that the combined references disclose the Appellants' service access unit. The fatal flaw in Examiner Jiang's reasoning is his rationale for combining Daffner and Greenlee.

Daffner's modem 7 is a simple "dumb" communications device that lacks certain claimed features of the Appellants' service access unit. The modem is an intermediate or pass-through communications device, coupling a communications network to a data terminal device (e.g., a computer). The modem converts digital or analog signals in a first format as received from the data terminal device to a second format suitable for conveyance of the information over the communications network. A modem also operates in the opposite direction to transform data received from the communications network into a form for use by the data terminals device.

Originally, modems at the sending end performed a digital-to-analog conversion for sending the digital data from a first data terminal device over the analog public switched telephone network to another modem at the receiving end where the received analog signals were converted back to digital form for use by a second data terminal. Today, the term modem is used to commonly refer to any communications pass-through device that converts data in one format to a different format suitable for conveyance over a communications medium. For example, a cable modem converts the data from the computer into the proper format for carrying over the cable network.

Examiner Jiang admits that Daffner does not disclose certain limitations associated with the Appellants' service access unit, including the service access unit operating as a client for requesting the services, operating as a server for providing web services in the communication network and comprising a search means for addressing the central register database.

The Examiner then turns to Greenlee for overcoming these deficiencies by citing to Greenlee servers that he argues teach a central register database, the service access unit operating as a client for requesting services, the service access unit operating as a server for providing web services, thereby permitting automaton components to communicate with internet mechanisms, the service access unit comprising a search means for addressing the central register database and the services requested by the service access unit becoming active in the automation system.

The fatal flaw in the Examiner's argument is justifying the combination of Daffner and Greenlee by suggesting that it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the teachings of Greenlee into Daffner. He argues that Daffner already teaches connecting automation components to a network with a modem, it would have been obvious to replace the modem with a server because the benefits provided, i.e., to provide a pool of shared resources and backup in the analogous art of computing networking.

But the Examiner fails to convincingly explain how this replacement can be functionally accomplished. The benefits cited by Examiner Jiang as derivable from the combination may be persuasive, but they are merely conclusory. How does one accomplish the replacement and what is the motivation for making the replacement? A server is not an obvious substitute for a modem. This is not a simple obviousness case where one combines references A and B by replacing an element in A with a like element from B, where both elements have the same or a comparable functionality and achieve the same result. For example, this is not a situation where it would be obvious to replace a hard drive storage element from reference A with a RAM storage element from reference B. Both operate to store data and so under the obviousness guidelines this would appear to be a permitted substitution.

However, in the instant situation a modem and a server are not like-replaceable elements. Because they perform different functions and have different operational capabilities one is not an obvious substitute for the other. A server is a computer that provides services to network users. For example, a Web server is a computer that provides Web services, e.g., receiving requests from clients via the Internet and delivering web pages to clients via the Internet. The server includes both hardware components and software applications that allow it to perform these functions.

To the contrary, a modem lacks the hardware and software elements to perform these functions. A modem cannot interface with devices on the field bus to achieve the same results as a server connected to the devices on the field bus. A modem cannot interface with devices on the Internet to achieve the same result as a server connected to the devices on the Internet. As a “dumb” communications device the modem requires a controller to control its operation, e.g., to “talk to” the devices on the field bus and the devices on the Internet. These differences in hardware components, software applications, functionality and achieved results preclude replacing the modem with a server. In fact, the server subsumes the modem. The server requires a modem (or another communications interfacing device) to access the network.

The combination is further flawed because while Daffner's modem 7 is connected to Daffner's (field) bus system 5, Greenlee's server is not connected to a field bus. To convincingly suggest that the Daffner modem can be replaced by the Greenlee server to establish the obviousness combination, the Daffner modem and the Greenlee server must bridge the same types of networks. Daffner's modem bridges his field bus system 5 and the PSTN/Internet.

Greenlee's servers 14, 16a, 16b . . . 16n bridge the clients 22a, 22b and 22c and a server monitor 30. There is no field bus system in Greenlee. The disparate connectivity of Daffner's modem and Greenlee's servers further supports the Appellants' arguments that Daffner and Greenlee cannot be combined to disclose the Applicants' invention.

The last limitation set forth in the Appellants' claim 15 recites, "services requested by the service access unit becoming active in the automation system." The Examiner cites to Greenlee's paragraph 17 as disclosing this limitation.

A careful review of Greenlee paragraph 17 does not support the Examiner's contention. That paragraph discusses handling of requests to servers that are intended to determine the operational status of these servers, i.e., response time of the server. There is no discussion in the cited paragraph of services that become active in the automation system, in fact, there is no automation system in Greenlee.

In *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), the Court declared that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." Instead, "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." (*In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006) cited with approval in KSR). Specifically, "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the new claimed invention does." Here Examiner Jiang has merely combined two disparate references, albeit both related to communications subject matter, using the secondary Greenlee reference to fill gaps in the primary Daffner reference. But the reasons offered for the combination are merely conclusory (i.e., focusing on the benefits provided), a rationale the Court stated was insufficient to support the combination.

The Daffner/Greenlee combination does not disclose the Appellants' invention as claimed in claim 15. The rejection must be overturned.

The rejection of independent method claim 21 is substantively the same as the rejection of independent apparatus claim 15. Thus the deficiencies in the rejection of claim 15 are the same as the deficiencies in the rejection of claim 21. The arguments presented above for the allowability of claim 15 thus also apply to the allowability of claim 21.

The rejection of independent apparatus claim 28 is substantively the same as the rejection of independent apparatus claim 15. Thus the deficiencies in the rejection of claim 15 are the same as the deficiencies in the rejection of claim 28. The arguments presented above for the allowability of claim 15 thus also apply to the allowability of claim 28.

7C. APPELLANTS TRAVERSE THE REJECTION OF EACH DEPENDENT CLAIM 18-20 AND 24-27.

Dependent claims 18-20 are patentable based on their dependency from independent claim 15. These dependent claims rise and fall together with independent claim 15.

Reversal of the rejection of dependent claims 18-20 is therefore respectfully requested.

Dependent claims 24-27 are patentable based on their dependency from independent claim 21. These dependent claims rise and fall together with independent claim 21.

Reversal of the rejection of dependent claims 24-27 is therefore respectfully requested.

7D. CONCLUSION

Argument has been presented to demonstrate that the rejections under Section 103 are deficient and that the dependent claims distinguish over the prior art. The Examiner has argued rejections when claimed features are absent from or inconsistent with the applied combinations of art. Accordingly, none of the rejections can be sustained. For all of the above argued reasons, all of the rejections should be withdrawn and the claims should be allowed.

(Please proceed to the next page.)

8. APPENDICES

An appendix containing a copy of the claims involved in this appeal is provided herewith. No evidence appendix or related proceedings appendix is provided because no such evidence or related proceeding is applicable to this appeal.

Respectfully submitted,

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APPENDIX OF CLAIMS ON APPEAL

15. A system for using services provided by a communication network, the system comprising:

a communication network having internet mechanisms and a central register database for providing information about the services accessible from the communication network;

at least one automation system having automation components connected by a conventional field bus, the automation components lacking internet mechanisms; and

a service access unit operative as one element of the automation system, the service access unit for connecting the conventional field bus to the communication network, wherein the service access unit operates as a client for requesting services, as requested by automation components, from the communication network and operates as a server for providing web services in the communication network, the service access unit further including a protocol converter for adapting a first communication protocol used by the services to a second communication protocol used by the field bus, thereby permitting the automation components to communicate with internet mechanisms of the communication network, the service access unit further comprising a search means for addressing the central register database, services requested by the service access unit becoming active in the automation system.

18. The system according to claim 15, wherein the services are web services.

19. The system according to claim 15, wherein the communication network is an intranet.

20. The system according to claim 15, wherein the service access unit provides further services in the communication network.

21. A method for using services provided in at least one communication network having internet mechanisms and at least one automation system comprising automation components connected by a conventional field bus, the method comprising:

connecting the conventional field bus to the communication network by a service access unit, the automation components lacking internet mechanisms and the communication network having a central register database for providing information about the services accessible from the communication network, the service access unit operative as one element of the automation system;

adapting a first communication protocol used by the services to a second communication protocol used by the field bus by a protocol converter included in the service access unit, thereby permitting the automation components to access internet mechanisms of the communication network; and

accessing the services by the automation components using the service access unit as a client, the services requested by the automation components, wherein the service access unit operates as a server for providing services in the communication network, the service access unit comprising a search means for addressing the central register database, services requested by the service access unit becoming active in the automation system.

24. The method according to claim 21, wherein the services are web services.

25. The method according to claim 21, wherein the communication network is an intranet.

26. The method according to claim 21, wherein the service access unit provides further services in the communication network.

27. The method according to claim 21, wherein the services include executing a software update of at least one of the automation components.

28. A service access unit for connecting an automation system having automation components to a communication network having internet mechanisms, the communication network having a central register database for providing information about the services accessible from the communication network, the service access unit comprising a protocol converter for adapting a first communication protocol used by the services to a second communication protocol used by a conventional field bus, the automation components lacking internet mechanisms, the service access unit operative as one element of the automation system, the conventional field bus connecting the automation components, wherein the service access unit further operates as a client for requesting services from the communication network, or as a server for providing services in the communication network and permitting the automation components to communicate with the internet mechanisms of the communications network, the service access unit further comprising a search means for addressing the central register database, services requested by the service access unit becoming active in the automation .

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EVIDENCE APPENDIX - 37 CFR 41.37(c) (1) (ix)

None

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RELATED PROCEEDINGS APPENDIX - 37 CFR 41.37(c) (1) (x)

None